Objectives

• Define criteria for and significance of late diagnosis
• Review Georgia data on Care Continuum and late diagnosis among youth
• Discuss trends in new HIV diagnoses among youth
Stage of HIV disease at diagnosis

• Stage at diagnosis is defined by the first CD4 done within 12 months of diagnosis
  Stage 1 = CD4 ≥ 500
  Stage 2 = CD4 200-499
  Stage 3 (AIDS) = CD4 < 200 or OI

• Stage at diagnosis is unknown if no CD4 done within 12 months of diagnosis

• New (04/11/2014 MMWR) revised surveillance case definition: Stage 0 or acute infection
Late HIV diagnoses (Late testers of HIV infection)

- Defined as the number of persons who progressed from initial HIV diagnosis to Stage 3, AIDS (opportunistic infection or CD4 <200) within 12 months (<=12) of HIV diagnosis date
- Late HIV diagnosis is associated with shorter lifespan compared to those with earlier diagnosis
- It is estimated that persons with late HIV diagnosis have been living 8-10 years with HIV, but have been undiagnosed and untreated
- Late HIV diagnosis reflects missed opportunities for prevention and treatment of HIV
### HIV Epidemic, Georgia, 1995 to 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>AIDS deaths</th>
<th>Late testers of HIV infection</th>
<th>Stage 3, AIDS</th>
<th>New HIV infections</th>
<th>Persons living with HIV infection</th>
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<td>1,479</td>
<td>3,023</td>
<td>47,754</td>
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</tbody>
</table>

*Note: Numbers for persons living with HIV infection are based on data entered through June 30, 2013 and have not been adjusted for reporting delays.*

*Note: Cases of persons living with HIV infection are based on a current residence in Georgia and cases for new diagnoses are based on residence of diagnosis in Georgia respectively, regardless of stage of diagnosis.*

*Note: Case counts include incarcerated persons who may artificially inflate the numbers.*
HIV/AIDS Profile, Georgia, 1995-2011
New HIV infections vs. Late HIV diagnosis, Georgia among adults and adolescents aged ➖=13 years, 2005 to 2011

- New HIV infections
- Late HIV diagnosis

Year of Diagnosis

- 2005: 2,615
- 2006: 2,755
- 2007: 3,320
- 2008: 3,222
- 2009: 2,935
- 2010: 2,804
- 2011: 3,006

Number of cases
New HIV infections vs. Late HIV diagnosis, MATLC Area Counties, among adults and adolescents, aged ≥13 years, 2005 to 2011

Counties included in the MATLC Area are Fulton, DeKalb, Cobb, Douglas, Gwinnett, Clayton, Carroll, Heard, Troup, Coweta, Butts, Meriwether, Fayette, Henry, Spalding, Pikes, Lamar, and Upson
Late HIV Diagnosis by sex, Georgia and MATLC Area Counties, among adults and adolescents >=13 years, 2011

There were 5 and 4 cases with missing gender among Georgia and MATLC Area cases respectively.
Late HIV Diagnosis by race/ethnicity, Georgia and MATLC Area Counties, among adults and adolescents >=13 years, 2011

* Other Includes Asian, Hawaiian/Pacific Islander, Multiracial, American Indian, Alaskan Native and Unknown

![Bar chart showing the number of late HIV diagnoses by race/ethnicity in Georgia and MATLC Area Counties.](chart)

- **Georgia**
  - Black: 534
  - White: 113
  - Hispanic/Latino: 62
  - Other: 144
  - Total: N=851

- **MATLC Area**
  - Black: 351
  - White: 55
  - Hispanic/Latino: 38
  - Other: 96
  - Total: N=540

*We Protect Lives.*
Late HIV Diagnosis by transmission category in Georgia and MATLC Area Counties among adults and adolescents ≥13 years, 2011

Note: Data includes adults & adolescents ≥ age 13, diagnosed
There were 12 and 8 cases in the MSM & IDU category for Georgia and MATLC Area Counties respectively

N=853
N=540

We Protect Lives.
Late HIV Diagnosis by age group (in years), Georgia, MATLC Area Counties, among adults and adolescents >=13 years, 2011

There were 16 and 9 cases in the 13-19 age category for Georgia and MATLC Area counties respectively.
Stage of disease by earliest CD4 count within 12 months of HIV diagnosis, adults and adolescents, Georgia, 2011

- Stage 1: CD4 >=500
  - N=484
  - 17% (87 people)

- Stage 2: CD4 200-499
  - N=766
  - 27% (209 people)

- Stage 3: CD4 <200
  - N=632
  - 22% (138 people)

- Stage unknown
  - N=1003
  - 35% (351 people)

Adults and adolescents >= age 13, diagnosed 1/1/2011 - 12/31/2011, Georgia = 2885
CD4<200 = Stage 3 disease (AIDS)
Stage unknown = no CD4 within 12 months of diagnosis
Stage of disease by earliest CD4 count within 12 months of HIV diagnosis, adults and adolescents, by race/ethnicity, Georgia 2011

Adults >= age 13, diagnosed 1/1/2011 - 12/31/2011, Georgia = 2885

CD4<200 = Stage 3 disease (AIDS)
Stage Unknown = no CD4 within 12 months of diagnosis

*American Indian/Alaska Native, Asian and Native Hawaiian/Pacific Islander groups together constitute <2% of adults diagnosed with HIV in Georgia, 2010 and are grouped with Unknown race/ethnicity.
Stage of disease by earliest CD4 count within 12 months of HIV diagnosis, adult and adolescent males, by transmission category*, Georgia, 2011

- Adult and adolescent males >= age 13, diagnosed 1/1/2011 - 12/31/2011, Georgia = 2214
- CD4<200 = Stage 3 disease (AIDS)  Stage Unknown = no CD4 within 12 months of diagnosis
- Multiple imputation used to re-distribute transmission category where missing
- *MSM = Male to male sexual contact  IDU = Injection drug use
- MSM/IDU = Male to male sexual contact and injection drug use
- HET = Heterosexual contact with a person known to have, or to be at high risk for, HIV infection
- Other = hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified

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Stage of disease by earliest CD4 count within 12 months of HIV diagnosis, adult and adolescent males, by age, Georgia, 2011

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Costs of Late Diagnosis

• One of the biggest costs of late diagnosis is ongoing transmission

• Each person with late HIV diagnosis has twice the average lifetime risk of transmitting HIV\(^1\)

• Depending on risk behaviors, number of partners, concurrent STDs, lifetime transmission risk can be even higher

• Further, persons unaware of their HIV diagnosis have a higher annual rate of sexual transmission on HIV (9% vs. 0.4% per person per year)\(^1\)

New HIV Diagnoses Among Blacks, by sex, Georgia, 2007-2011

Year of diagnosis

Number of diagnoses

Male
Female

2007 1,472 622 200
2008 1,510 603 400
2009 1,393 508 600
2010 1,256 467 800
2011 1,282 399 1,000

We Protect Lives.
New HIV Diagnoses Among Black Males, by age at diagnosis, Georgia, 2007-2011
New HIV Diagnoses Among Black Females, by age at diagnoses, Georgia, 2008-2011

![Graph showing the number of HIV diagnoses among black females by age at diagnoses in Georgia from 2008 to 2011. The x-axis represents the year of diagnosis, ranging from 2007 to 2011. The y-axis represents the number of diagnoses, ranging from 0 to 140. The graph uses different colors and markers to represent different age groups: 13-24, 25-29, 30-34, 35-39, 40-44, 45-49, and 50+. The number of diagnoses decreases over time for all age groups.]
Trends

It’s not enough to look at the overall numbers, we need to look at subgroups:

• New HIV diagnoses among Blacks overall are decreasing
• New HIV diagnoses are increasing among younger Black males and older Black females
• Different groups need different interventions
• Even among the youngest age group (age 13-24 years at diagnosis), at least 10% are late testers (Stage 3 AIDS at diagnosis or within 12 months)
Limitations and Implications

- HIV diagnosis date used as a proxy for date of HIV infection for a case
- Lack of CD4 count lab report availability at the time of HIV diagnosis and/or at 3 months of HIV diagnosis in the surveillance data will give a reduced estimate of late HIV diagnosis
- Treatment might delay progression to AIDS and those cases may have been misclassified as early testers (persons diagnosed with AIDS after 12 months of their HIV diagnosis date)
- Populations for which data are missing may be fundamentally different
- Late HIV diagnoses are helpful in understanding barriers to early HIV testing, linkage and retention in care
Contact

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http://dph.georgia.gov/data-fact-sheet-summaries